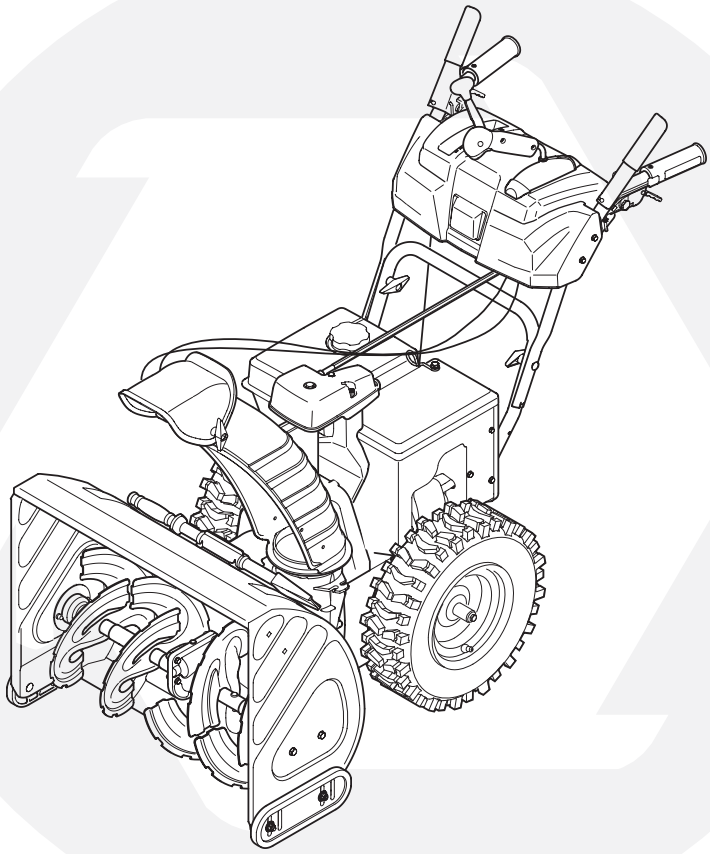
Safety • Assembly • Operation • Adjustments • Maintenance • Troubleshooting • Parts Lists • Warranty

OPERATOR'S MANUAL

TROY-BILT®

www.troybilt.ca



Two-Stage Snow Thrower

IMPORTANT:
READ SAFETY RULES AND INSTRUCTIONS CAREFULLY BEFORE OPERATION

PRINTED IN U.S.A.

P. O. Box 1386, KITCHENER, ONTARIO N2G 4J1

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6/24/09

This Operator's Manual is an important part of your new snow thrower. It will help you assemble, prepare and maintain the unit for best performance. Please read and understand what it says.

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Finding and Recording Model Number

BEFORE YOU START ASSEMBLING
YOUR NEW EQUIPMENT,
please locate the model plate on the equipment and copy the model number and the serial number to the sample model plate provided to the right. You can locate the model plate by standing at the operating position and looking down at the frame.

Model Number Numéro de modèle	Serial Number Numéro de série
XXX-XXXXXX	XXXXXXXXXXX

TROY-BILT® TROYBILT - CANADA
KITCHENER, ON N2G 4J1

Customer Support

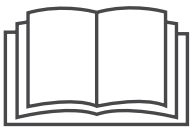
Please do *NOT* return the unit to the retailer from which it was purchased, without first contacting Customer Support.

If you have difficulty assembling this product or have any questions regarding the controls, operation or maintenance of this unit, you can seek help from the experts. Choose from the options below:

1. Visit www.troybilt.ca/troybilt for many useful suggestions.
2. Call an authorized dealer ***or*** Customer Support Representative at **1-800-668-1238.**
3. The engine manufacturer is responsible for all engine-related issues in terms of performance, power-rating, specifications, warranty, and service. Depending on the engine manufacturer, more information is included in this publication or packed separately with this product.

Please have your unit's model number and serial number ready when you call. See previous section to locate this information. You will be asked to enter the serial number in order to process your call.

This page depicts and describes safety symbols that may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	READ THE OPERATOR'S MANUAL(S) Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate.
	WARNING— ROTATING BLADES Keep hands out of inlet and discharge openings while machine is running. There are rotating blades inside.
	WARNING— ROTATING BLADES Keep hands out of inlet and discharge openings while machine is running. There are rotating blades inside.
	WARNING— ROTATING AUGER Do not put hands or feet near rotating parts, in the auger/impeller housing or chute assembly. Contact with the rotating parts can amputate hands and feet.
	WARNING—THROWN OBJECTS This machine may pick up and throw objects which can cause serious personal injury.
	WARNING—GASOLINE IS FLAMMABLE Allow the engine to cool at least two minutes before refueling.
	WARNING— CARBON MONOXIDE Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
	WARNING— ELECTRICAL SHOCK Do not use the engine's electric starter in the rain.

1

Safety Symbols

WARNING

This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol, HEED ITS WARNING!

Your Responsibility
Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

2

Safe Operation Practices

WARNING

This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol, HEED ITS WARNING!

Your Responsibility
Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

WARNING: Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

DANGER: This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

Training

1. Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
3. Never allow children under 14 years old to operate this machine. Children 14 years old and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.
4. Never allow adults to operate this machine without proper instruction.
5. Thrown objects can cause serious personal injury. Plan your snow-throwing pattern to avoid discharge of material toward roads, bystanders and the like.
6. Keep bystanders, helpers, pets and children at least 75 feet from the machine while it is in operation. Stop machine if anyone enters the area.
7. Exercise caution to avoid slipping or falling, especially when operating in reverse.

Preparation

Thoroughly inspect the area where the equipment is to be used. Remove all doormats, newspapers, sleds, boards, wires and other foreign objects, which could be tripped over or thrown by the auger/impeller.

1. Always wear safety glasses or eye shields during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
2. Do not operate without wearing adequate winter outer garments. Do not wear jewelry, long scarves or other loose clothing, which could become entangled in moving parts. Wear footwear which will improve footing on slippery surfaces.
3. Use a grounded three-wire extension cord and receptacle for all units with electric start engines.
4. Adjust collector housing height to clear gravel or crushed rock surfaces.
5. Disengage all control levers before starting the engine.
6. Never attempt to make any adjustments while engine is running, except where specifically recommended in the operator's manual.
7. Let engine and machine adjust to outdoor temperature before starting to clear snow.

Safe Handling of Gasoline

To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes, which can ignite. Wash your skin and change clothes immediately.

a. Use only an approved gasoline container.
b. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
c. Never fuel machine indoors.
d. Never remove gas cap or add fuel while the engine is hot or running.
e. Allow engine to cool at least two minutes before refueling.
f. Never over fill fuel tank. Fill tank to no more than ½ inch below bottom of filler neck to provide space for fuel expansion.
g. Replace gasoline cap and tighten securely.
h. If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting the engine.
i. Never store the machine or fuel container inside where there is an open flame, spark or pilot light (e.g. furnace, water heater, space heater, clothes dryer etc.).
j. Allow machine to cool at least 5 minutes before storing
k. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
l. If possible, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
m. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

Operation

1. Do not put hands or feet near rotating parts, in the auger/impeller housing or chute assembly. Contact with the rotating parts can amputate hands and feet.
2. The auger/impeller control lever is a safety device. Never bypass its operation. Doing so makes the machine unsafe and may cause personal injury.
3. The control levers must operate easily in both directions and automatically return to the disengaged position when released.
4. Never operate with a missing or damaged chute assembly. Keep all safety devices in place and working.
5. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
6. Do not operate machine while under the influence of alcohol or drugs.
7. Muffler and engine become hot and can cause a burn. Do not touch.

8. Exercise extreme caution when operating on or crossing gravel surfaces. Stay alert for hidden hazards or traffic.
9. Exercise caution when changing direction and while operating on slopes.
10. Plan your snow-throwing pattern to avoid discharge towards windows, walls, cars etc. Thus, avoiding possible property damage or personal injury caused by a ricochet.
11. Never direct discharge at children, bystanders and pets or allow anyone in front of the machine.
12. Do not overload machine capacity by attempting to clear snow at too fast of a rate.
13. Never operate this machine without good visibility or light. Always be sure of your footing and keep a firm hold on the handles. Walk, never run.
14. Disengage power to the auger/impeller when transporting or not in use.
15. Never operate machine at high transport speeds on slippery surfaces. Look down and behind and use care when backing up.
16. If the machine should start to vibrate abnormally, stop the engine, disconnect the spark plug wire and ground it against the engine. Inspect thoroughly for damage. Repair any damage before starting and operating.
17. Disengage all control levers and stop engine before you leave the operating position (behind the handles). Wait until the auger/impeller comes to a complete stop before unclogging the chute assembly, making any adjustments, or inspections.
18. Never put your hand in the discharge or collector openings. Always use the clean-out tool provided to unclog the discharge opening. Do not unclog chute assembly while engine is running. Shut off engine and remain behind handles until all moving parts have stopped before unclogging.
19. Use only attachments and accessories approved by the manufacturer (e.g. wheel weights, tire chains, cabs etc.).
20. When starting engine, pull cord slowly until resistance is felt, then pull rapidly. Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go. Broken bones, fractures, bruises or sprains could result.
21. If situations occur which are not covered in this manual, use care and good judgment. Call customer assistance for the name of your nearest servicing dealer.

Clearing a Clogged Discharge Chute

Hand contact with the rotating impeller inside the discharge chute is the most common cause of injury associated with snowthrowers. Never use your hand to clean out the discharge chute.
To clear the chute:

1. SHUT THE ENGINE OFF!
2. Wait 10 seconds to be sure the impeller blades have stopped rotating.
3. Always use a clean-out tool, not your hands.

Maintenance & Storage

1. Never tamper with safety devices. Check their proper operation regularly. Refer to the maintenance and adjustment sections of this manual.
2. Before cleaning, repairing, or inspecting machine disengage all control levers and stop the engine. Wait until the auger/impeller come to a complete stop. Disconnect the spark plug wire and ground against the engine to prevent unintended starting.
3. Check bolts and screws for proper tightness at frequent intervals to keep the machine in safe working condition. Also, visually inspect machine for any damage.
4. Do not change the engine governor setting or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
5. Snowthrower shave plates and skid shoes are subject to wear and damage. For your safety protection, frequently check all components and replace with original equipment manufacturer's (OEM) parts only. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
6. Check controls periodically to verify they engage and disengage properly and adjust, if necessary. Refer to the adjustment section in this operator's manual for instructions.
7. Maintain or replace safety and instruction labels, as necessary.
8. Observe proper disposal laws and regulations for gas, oil, etc. to protect the environment.
9. Prior to storing, run machine a few minutes to clear snow from machine and prevent freeze up of auger/impeller.
10. Never store the machine or fuel container inside where there is an open flame, spark or pilot light such as a water heater, furnace, clothes dryer etc.
11. Always refer to the operator's manual for proper instructions on off-season storage.
12. Check fuel line, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
13. Do not crank engine with spark plug removed.
14. According to the Consumer Products Safety Commission (CPSC) and the U.S. Environmental Protection Agency (EPA), this product has an *Average Useful Life* of seven (7) years, or 60 hours of operation. At the end of the *Average Useful Life*, have the machine inspected annually by an authorized service dealer to ensure that all mechanical and safety systems are working properly and not worn excessively. Failure to do so can result in accidents, injuries or death.

Do not modify engine

To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.

Notice regarding Emissions

Engines which are certified to comply with California and federal EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline, and may include the following emission control systems: Engine Modification (EM) Oxidizing Catalyst (OC), Secondary Air Injection (SAI) and Three Way Catalyst (TWC) if so equipped.

Spark Arrestor

WARNING: This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brushcovered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any).

If a spark arrester is used, it should be maintained in effective working order by the operator.
A spark arrester for the muffler is available through your nearest engine authorized service dealer.

06.01.09

2

Safe Operation Practices

WARNING

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Your Responsibility
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3 Setting Up Your Snow Thrower

NOTE: References to right or left side of the snow thrower are determined from behind the unit in the operating position.

NOTE: This Operator's Manual covers several models, handle panels, lights and chute cranks are some features that may vary by model. Not all features referenced in this manual are applicable to all snow thrower models.

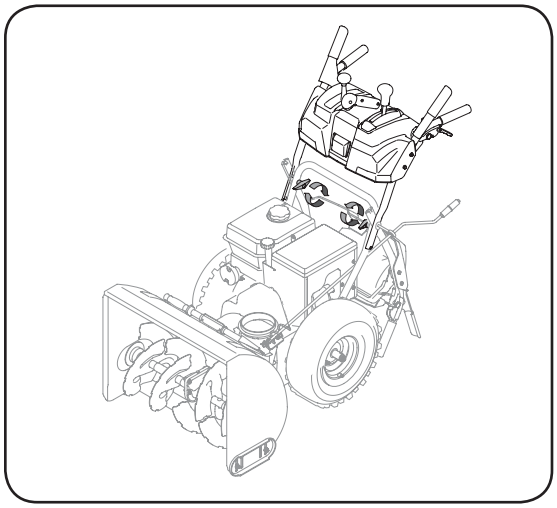


Figure 3-1

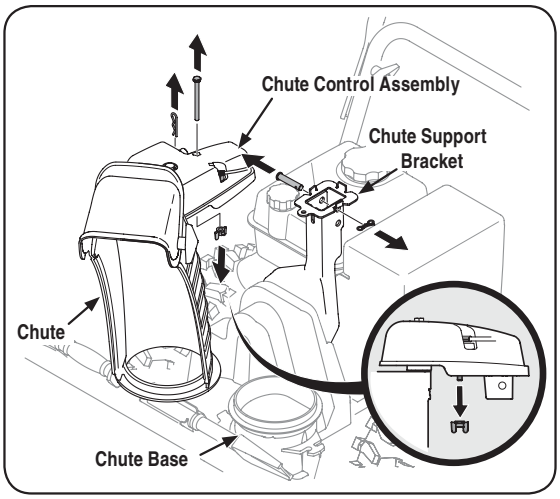


Figure 3-2

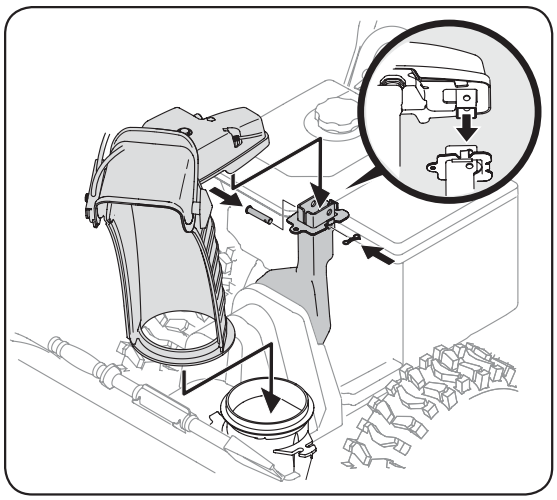


Figure 3-3

IMPORTANT: The snow thrower is shipped with oil and WITHOUT GASOLINE. After assembly, refer to separate engine manual for proper fuel and engine oil recommendations.

1. Place the shift lever in the Forward-6 position.
2. Observe the lower area of the snow thrower to be sure both cables are aligned with roller guides.
   a. Pull up and back on upper handle as shown in Figure 3-1. Align upper handle with the lower handle.
   b. Tighten hand knobs securing upper handle to lower handle.

Chute Assembly

1. Remove cotter pin, wing nut and hex screw from chute control assembly and clevis pin and cotter pin from chute support bracket. See Figure 3-2. Position the chute assembly over the chute base.
2. Place chute onto chute base and secure chute control assembly to chute support bracket with clevis pin and cotter pin removed earlier. See Figure 3-3.
3. Finish securing chute rotation assembly to chute support bracket with wing nut and hex screw removed earlier. See Figure 3-2.
4. Squeeze the trigger on the joystick, rotate the chute assembly by hand to face forward. The hole in the chute rotation assembly should be facing up. See Figure 3-4.

NOTE: The chute will not rotate without squeezing the trigger on the joystick.

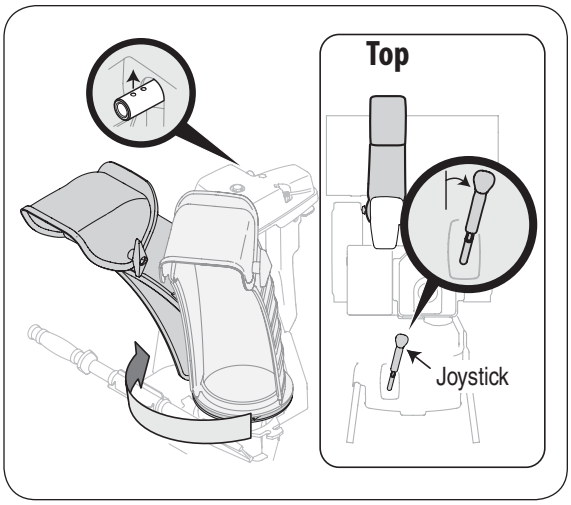


Figure 3-4

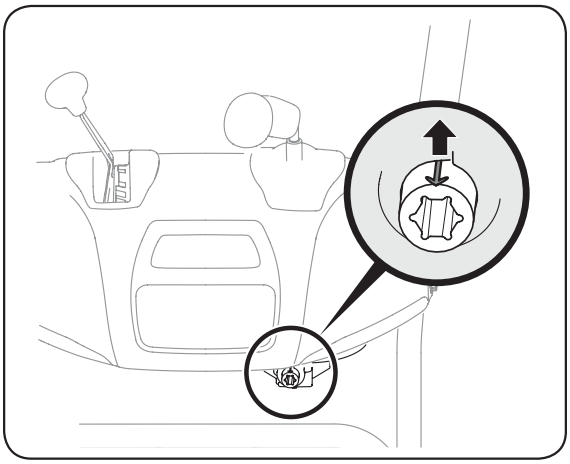


Figure 3-5

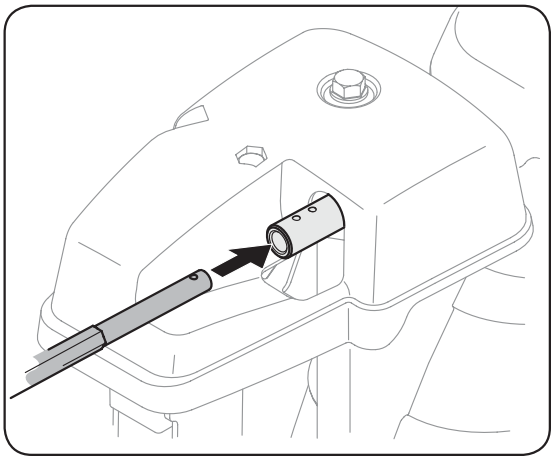


Figure 3-6

5. Rotate the joystick until the silver indicator arrow on the pinion gear is on the top. See Figure 3-5. The pinion gear is located on the front of the unit below the dash panel.

NOTE: The joystick must be angled slightly to the right as shown Figure 3-4 and the arrow on the pinion gear at the top to ensure full chute rotation.

6. Insert hex rod into chute control assembly. Push rod into chute control assembly as far as possible, keeping the holes at both ends of the hex rod pointing upward. See Figure 3-6 and 3-7.
7. Insert the hex rod into the pinion gear below the joystick. Make sure to line up the hole in the rod with the arrow on the pinion gear. See Fig. 3-7.

NOTE: The hole is a reference for aligning the rod with the indicator arrow on the pinion gear.

8. Push the rod towards the control panel until the hole on the hex rod lines up with the hole marked by the arrow on the chute control assembly. Insert the cotter pin. See Figure 3-8.

NOTE: The second hole is used to achieve further engagement of the hex rod into the pinion gear if required, refer to “Chute Control Rod” in the “Adjustment” section.

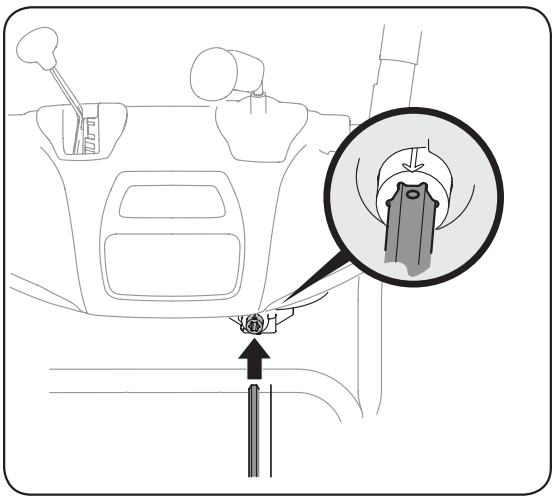


Figure 3-7

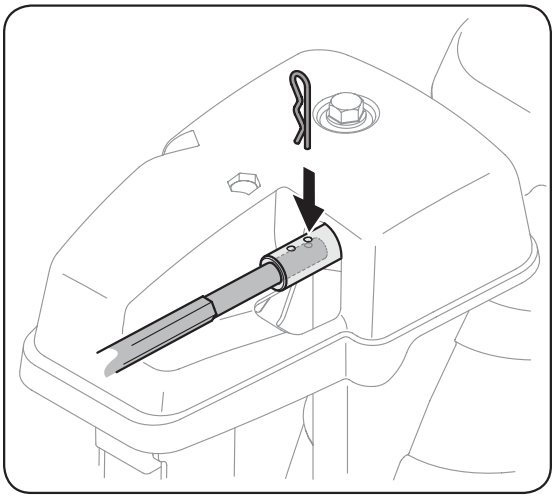


Figure 3-8

3 Setting Up Your Snow Thrower

CAUTION

Prior to operating your snow thrower, refer to Auger Control Test on page 11. Read and follow all instructions carefully and perform all adjustments to verify your unit is operating safely and properly.

3 Setting Up Your Snow Thrower

Never use your hands to clean snow and ice from the chute assembly or auger housing.

9. It is important that all cables be routed through the cable guide and remain positioned on the left side of the hex rod. See Figure 3-9.

NOTE: An extension cord may be fastened with a cable tie to the rear of the auger housing for shipping purposes. Cut the cable tie and remove it before operating the snow thrower.

CAUTION: Prior to operating your snow thrower, refer to Auger Control Test in the "Operating" section. Read and follow all instructions carefully, and perform all adjustments to verify your snow thrower is operating safely and properly.

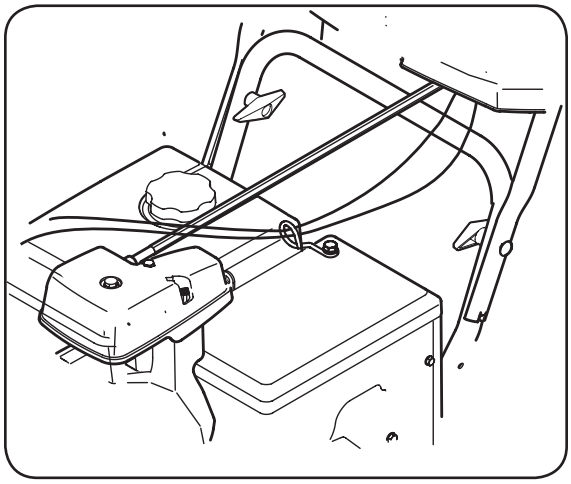


Figure 3-9

Clean-Out Tool

The clean-out tool is mounted to the rear of the auger housing with a mounting clip and a cable tie at the factory. Cut the cable tie before operating the snow thrower. See Figure 3-10.

Shear Pin Storage (optional)

An area for convenient shear pin storage is located at the rear of the dash panel.

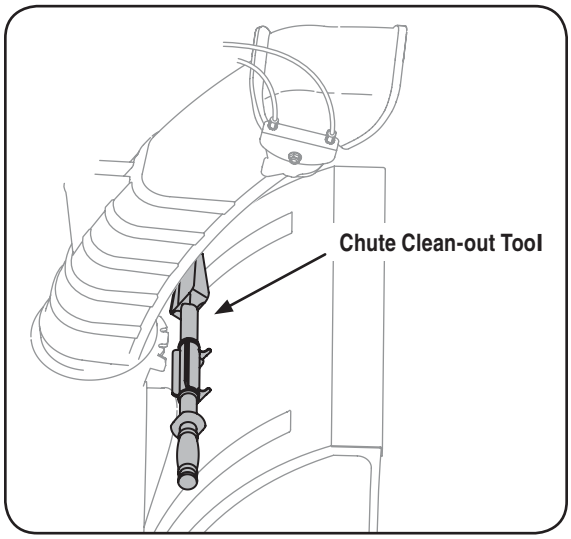


Figure 3-10

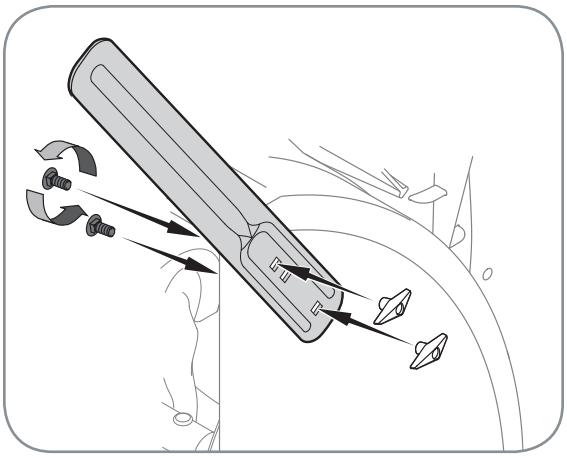


Figure 3-11

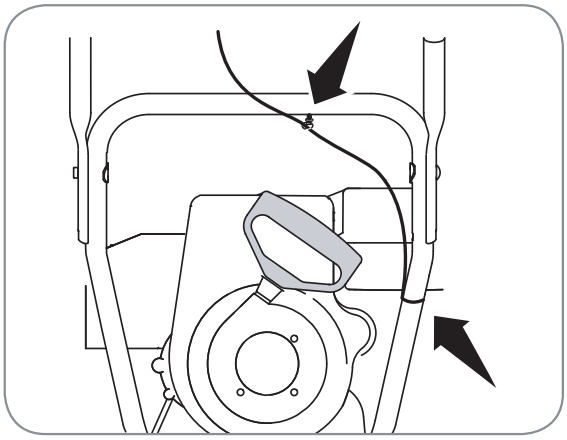


Figure 3-12

Drift Cutters (If Equipped)

Drift cutters should be used when operating the snow thrower in heavy drift conditions.

- On models so equipped, drift cutters and hardware are assembled to the auger housing inverted.
- Remove the carriage bolts and wingnuts securing the drift cutters to the housing.
- Reposition drift cutters so they face forward as shown in Figure 3-11. Secure with hardware previously removed, wingnuts should be fastened on the **outside** of the housing as shown.

If your unit is **not** equipped with drift cutters, you may contact Customer Support as instructed on page 2 for information regarding price and availability.

Lamp Wiring Harness (If equipped)

The post on the cable tie attaching the lamp wiring harness to the lower handle should be plugged into the hole in the lower handle. Pull the slack portion of the wiring harness through the cable tie to prevent interference with the recoil starter handle. See Figure 3-12.

Skid Shoes

Position the skid shoes based on surface conditions. Adjust upward for hard-packed snow. Adjust downward when operating on gravel or crushed rock surfaces. See "Making Adjustment" Section.

Tire Pressure

The tires are over-inflated for shipping purposes. Check the tire pressure before operating the snow thrower. Refer to the tire side wall for tire manufacturer's recommended psi and deflate (or inflate) the tires as necessary.

WARNING: Under any circumstance do not exceed manufacturer's recommended psi. Equal tire pressure should be maintained at all times. Excessive pressure when seating beads may cause tire/rim assembly to burst with force sufficient to cause serious injury. Refer to sidewall of tire for recommended pressure.

3

Setting Up Your Snow Thrower

NOTE: Two replacement auger shear pins are included with this manual (or stowed in the plastic handle panel). Refer to Augers in the Maintainance Section for more information regarding shear pin replacement.

4

Operating Your Snow Thrower

WARNING

Read, understand, and follow all instructions and warnings on the machine and in this manual before operating.

Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. *Never* fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and other sources of ignition.

Know Your Snow Thrower

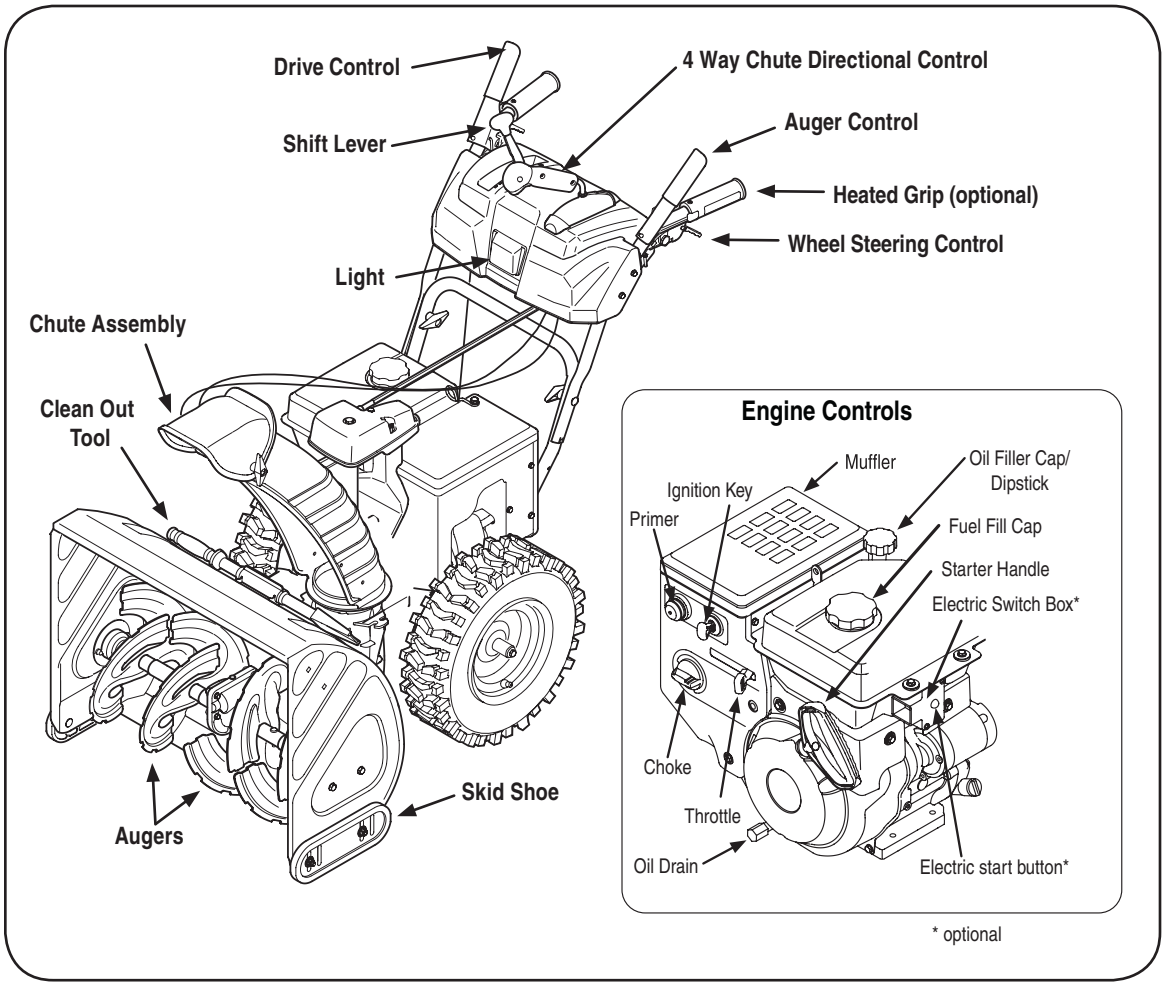


Figure 4-1

Now that you have set up your snow thrower for operation, get acquainted with its controls and features. These are described below and illustrated in Figure 4-1. This knowledge will allow you to use your new equipment to its fullest potential.

NOTE: For detailed starting instructions and more information on all engine controls, refer to the engine manual packed with your unit.

Shift Lever

The shift lever is located on the right side of the handle panel. Place the shift lever into any of eight positions to control the direction of travel and ground speed.

Forward

Your snow thrower has six forward (F) speeds, with position number one (1) being the slowest speed.

Reverse

Your snow thrower has two reverse (R) speeds, with position number one (1) being the slower speed.

Choke Control

Activating the choke control closes the choke plate on the carburetor and aids in starting the engine.

Primer

Depressing the primer forces fuel directly into the engine's carburetor to aid in cold-weather starting.

Oil Fill

Engine oil level can be checked and oil added through the oil fill.

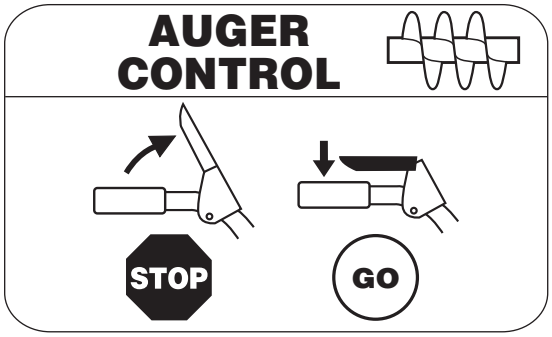
Ignition Key

The ignition key is a safety device. Insert key and snap in place; do not turn ignition key. Pull the key out halfway to stop the engine. Remove key when the unit is not in use.

Throttle Control

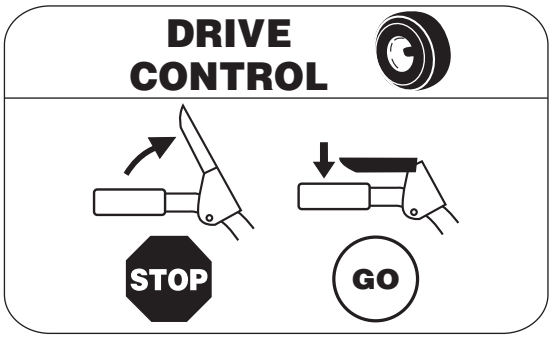
The throttle control regulates the speed of the engine and will shut off the engine when moved into the STOP position.

Auger Control



The auger control is located on the left handle. Squeeze the control grip against the handle to engage the augers and start snow throwing action. Release to stop.

Drive Control/ Auger Control Lock



The drive control is located on the right handle. Squeeze the control grip against the handle to engage the wheel drive. Release to stop.

The drive control also locks the auger control so you can operate the chute directional control without interrupting the snow throwing process. If the auger control is engaged simultaneously with the drive control, the operator can release the auger control (on the left handle) and the augers will remain engaged. Release both controls to stop the augers and wheel drive.

IMPORTANT: Always release the drive control before changing speeds.

Heated Handles Switch (If Equipped)

This switch is located on the rear of the snow thrower dash panel. To activate the heated handles, toggle the switch to the "ON" position to generate heat within the handle grips. Toggle the switch to the "OFF" position after using the snow thrower.

NOTE: The heated handles grips are a compliment to, not a substitute for, proper cold weather outerwear for the operator's hands. It is recommended that the snow thrower operator wear gloves/mittens to avoid extremities of winter while operating this equipment.

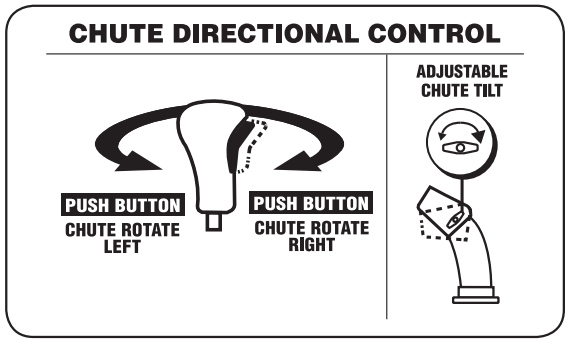
Augers

When engaged, the augers rotate and draw snow into the auger housing.

Four-Way Chute Control™

The chute directional control is located on the left side of the dash panel.

- To change the direction in which snow is thrown, squeeze the button on the joy-stick and pivot the joy-stick to the right or to the left.
- To change the angle/distance which snow is thrown, pivot the joy-stick forward or backward.



Skid Shoes

Position the skid shoes based on surface conditions. Adjust upward for hard-packed snow. Adjust downward when operating on gravel or crushed rock surfaces. See "Making Adjustment" Section.

Wheel Steering Controls

The left and right wheel steering controls are located on the underside of the handles. Squeeze the right control to turn right; squeeze the left control to turn left.

NOTE: Operate the snow thrower in open areas until you are familiar with these controls.

Chute Clean-Out Tool

The clean-out tool is conveniently fastened to the rear of the auger housing with a mounting clip.

1. Release both the auger control and the drive/auger control lock.
2. Move throttle control to STOP position and remove the ignition key.
3. Remove the clean-out tool from the mounting clip.
4. Use the shovel-shaped end of the clean-out tool to remove any snow and ice in the chute assembly.
5. Re-fasten the clean-out tool to the mounting clip on the rear of the auger housing and restart engine.
6. While standing in the operator's position (behind the snow thrower), engage the auger control for a few seconds to clear any remaining snow or ice from the chute assembly before continuing to clear snow.

WARNING: Never use your hands to clean snow and ice from the chute assembly or auger housing.

Headlight

The headlight is on whenever the engine is running.

4

Operating Your Snow Thrower

WARNING

The operation of any snow thrower can result in foreign objects being thrown into the eyes, which can damage your eyes severely. Always wear safety glasses while operating the snow thrower, or while performing any adjustments or repairs on it.

Be sure no one other than the operator is standing near the snow thrower while starting engine or operating snow thrower. Never run engine indoors or in enclosed, poorly ventilated areas. Engine exhaust contains carbon monoxide, an odorless and deadly gas. Keep hands, feet, hair and loose clothing away from any moving parts on engine and snow thrower.

WARNING

Read, understand, and follow all instructions and warnings on the machine and in this manual before operating.

Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. *Never* fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and other sources of ignition.

If your home's wiring system is not a three-wire grounded system, do not use this electric starter under any conditions.

If your home electrical system is grounded, but a three-hole receptacle is not available, do not use your snow thrower's electric starter.

Gas & Oil Fill-Up

Service the engine with gasoline and oil as instructed in the separate engine manual packed with your unit. Read instructions carefully.

Starting the Engine

WARNING: Always keep hands and feet clear of moving parts. Do not use a pressurized starting fluid. Vapors are flammable.

NOTE: Allow the engine to warm up for a few minutes after starting. The engine will not develop full power until it reaches operating temperatures.

Engines with Starter Handle (non-electric start)

IMPORTANT: Do not pull the starter handle with engine running.

1. Insert ignition key fully into slot. Make sure it snaps into place. DO NOT turn ignition key. The engine cannot start unless the key is inserted into ignition switch.
2. Move throttle control to FAST (rabbit) position.
3. Move choke to the CHOKE position (cold engine start). If engine is warm, place choke in RUN position.
4. Push primer three (3) times, making sure to cover vent hole when pushing. If engine is warm, push primer only once. Always cover vent hole when pushing. Cool weather may require priming to be repeated.
5. Pull gently on the starter handle until it begins to resist, then pull quickly and forcefully to overcome the compression. Do not release the handle and allow it to snap back. Return rope SLOWLY to original position. If required, repeat this step.
6. As the engine warms, slowly rotate the choke control to RUN position. If the engine falters, restart engine and run with choke at half-choke position for a short period of time, and then slowly rotate the choke into RUN position.

Engines with Electric Starters

WARNING: The electric starter is equipped with a grounded three-wire power cord and plug, and is designed to operate on 120 volt AC household current. It must be used with a properly grounded three-prong receptacle at all times to avoid the possibility of electric shock. Follow all instructions carefully prior to operating the electric starter.

WARNING: DO NOT use electric starter in rain.

1. Determine that your home's wiring is a three-wire grounded system. Ask a licensed electrician if you are unsure. If you have a grounded three-prong receptacle, proceed as follows. If you do not have the proper house wiring, DO NOT use the electric starter under any conditions.
2. Insert ignition key fully into slot. Make sure it snaps into place. DO NOT turn ignition key. **The engine cannot start unless the key is inserted into ignition switch.**
3. Plug the extension cord into the electric switch box located on the engine. Plug the other end of extension cord into a three-prong 120-volt, grounded, AC outlet in a well-ventilated area.
4. Move throttle control to FAST (rabbit) position.
5. Move choke to the CHOKE position (cold engine start). If engine is warm, place choke in RUN position.
6. Push primer three (3) times, making sure to cover vent hole when pushing. If engine is warm, push primer only once. Always cover vent hole when pushing. Cool weather may require priming to be repeated.
7. Push starter button to start engine. Once the engine starts, immediately release starter button. Electric starter is equipped with thermal overload protection; system will temporarily shut-down to allow starter to cool if electric starter becomes overloaded.
8. As the engine warms, slowly rotate the choke control to RUN position. If the engine falters, restart engine and run with choke at half-choke position for a short period of time, and then slowly rotate the choke into RUN position.
9. After engine is running, disconnect power cord from electric starter. When disconnecting, always unplug the end at the wall outlet before unplugging the opposite end from the engine.

Stopping the Engine

WARNING: To avoid unsupervised engine operation, never leave the engine unattended while running. Turn the engine off after use and remove ignition key

Run engine for a few minutes before stopping to help dry off any moisture on the engine.

1. Move throttle control to STOP position.
2. Remove the ignition key. Removing the key will reduce the possibility of unauthorized starting of the engine while equipment is not in use. **Keep the key in a safe place. The engine cannot start without the ignition key.**
3. Wipe all snow and moisture from the area around the engine as well as the area in and around the drive control and auger control. Also, engage and release both controls several times.

NOTE: Operate the snow thrower in open areas until you are familiar with these controls.

To Engage Drive

1. With the engine running near top speed, move shift lever to one of six FORWARD positions or two REVERSE positions. Select a speed appropriate for the snow conditions that exist. Do not shift speeds while the drive is engaged.
2. Squeeze drive control against the right handle and the snow thrower will move. Release it and the drive motion will stop.
3. To turn the unit left or right, squeeze the respective wheel steering control. See Figure 4-1.

To Engage Augers

1. To engage augers and start snow throwing, squeeze the left hand auger control against the left handle. Release to stop augers.
2. While the auger control is engaged, squeeze the drive control to move, release to stop. Do not shift speeds while the drive is engaged.

NOTE: This drive lever also locks auger control so you can turn the chute control without interrupting the snow throwing process.

3. Release the auger control; the interlock mechanism should keep the auger control engaged until the drive control is released.
4. Release the drive control to stop both the augers and the wheel drive. To stop the auger, both levers must be released.

Auger Control Test

Perform the following test before operating your snow thrower for the first time and at the start of each winter. Check the adjustment of the auger control as follows:

1. When the auger control is released and in the disengaged "up" position, the cable should have very little slack. It should NOT be tight.
2. In a well-ventilated area, start the snow thrower engine as instructed on the previous page. Make sure the throttle is set in the FAST position.
3. While standing in the operator's position (behind the snow thrower), engage the auger.

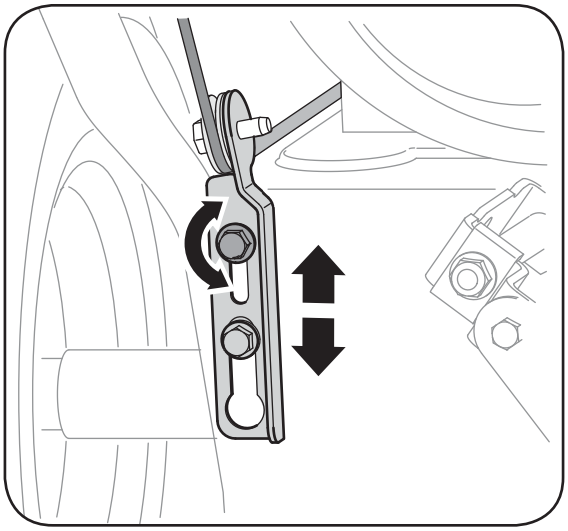


Figure 4-2

4. Allow the auger to remain engaged for approximately ten (10) seconds before releasing the auger control. Repeat this several times.
5. With the auger control in the disengaged "up" position, walk to the front of the machine.
6. Confirm that the auger has completely stopped rotating and shows NO signs of motion. If the auger shows ANY signs of rotating, immediately return to the operator's position and shut off the engine. Wait for ALL moving parts to stop before re-adjusting the auger control.
7. To readjust the control cable, loosen the upper hex nut on the auger cable bracket. See Figure 4-2.
8. Position the bracket upward to provide more slack (or downward to increase cable tension).
9. Retighten the upper hex nut.
10. Repeat Auger Control Test to verify proper adjustment has been achieved.

Tire Pressure

The tires are over-inflated for shipping purposes. Check the tire pressure before operating the snow thrower. Refer to the tire side wall for tire manufacturer's recommended psi and deflate (or inflate) the tires as necessary.

WARNING: Under any circumstance do not exceed manufacturer's recommended psi. Equal tire pressure should be maintained at all times. Excessive pressure when seating beads may cause tire/rim assembly to burst with force sufficient to cause serious injury. Refer to sidewall of tire for recommended pressure.

WARNING

The muffler, engine and surrounding areas become hot and can cause a burn 150°F (65°C). Do not touch.

When selecting a Drive Speed, use the slower speeds until you are comfortable and familiar with the operation of the snow thrower.

NEVER reposition the shift lever (change speeds or direction of travel) without first releasing the drive control and bringing the snow thrower to a complete stop. Doing so will result in premature wear to the snow thrower's drive system.

5

Making Adjustments

WARNING

Read, understand, and follow all instructions and warnings on the machine and in this manual before operating.

Never attempt to make any adjustments while the engine is running, except where specified in operator's manual.

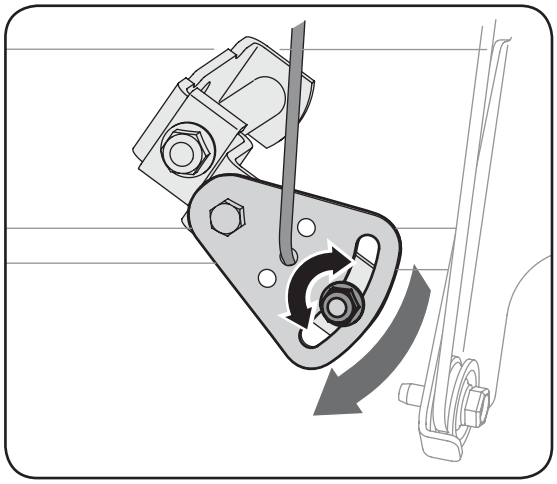


Figure 5-1

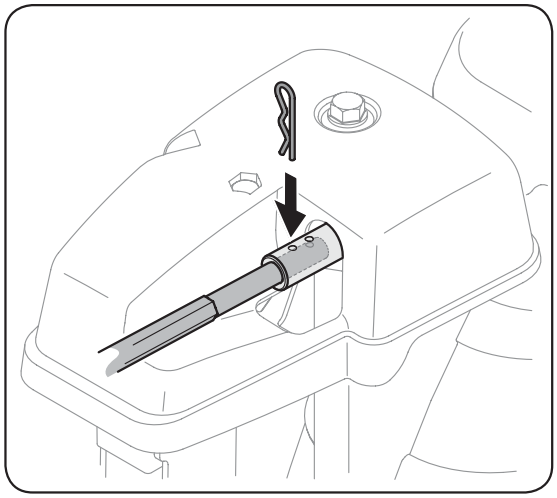


Figure 5-2

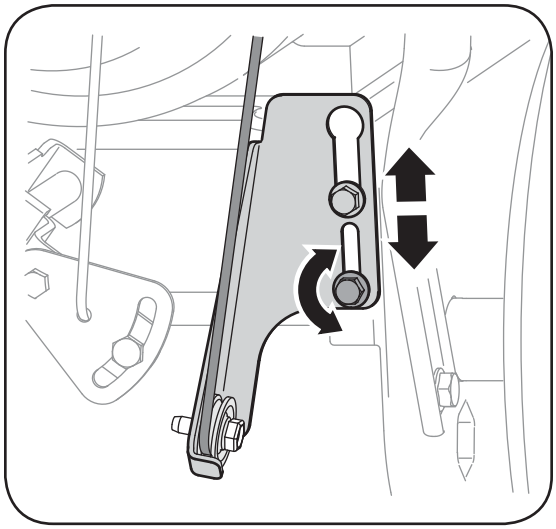


Figure 5-3

Shift Cable

If the full range of speeds (forward and reverse) cannot be achieved, refer to the figure to the left and adjust the shift cable as follows:

1. Place the shift lever in the **fastest** forward speed position.
2. Loosen the hex nut on the shift cable index bracket. See Figure 5-1.
3. Pivot the bracket downward to take up slack in the cable.
4. Retighten the hex nut.
5. Check for correct adjustment before operating the snow thrower.

Chute Control Rod

To adjust the chute control rod, proceed as follows:

1. Remove the cotter pin from the hole closest to the chute assembly on the chute control assembly.
2. Pull out the chute control rod until the hole in it lines up with the second hole in the chute control assembly. See Figure 5-2.
3. Reinsert the cotter pin through this hole and the chute control rod. See Figure 5-2.

Drive Control & Shift Lever

When the drive control is released and in the disengaged "up" position, the cable should have very little slack. It should NOT be tight.

Check the adjustment of the drive control as follows:

1. With the drive control released, push the snow thrower gently forward. The unit should roll freely.
2. Engage the drive control and gently attempt to push the snow thrower forward. The wheels should not turn. The unit should not roll freely.
3. With the drive control released, move the shift lever back and forth between the R2 position and the F6 position several times. There should be no resistance in the shift lever.
4. If any of the above tests failed, the drive cable is in need of adjustment. Proceed as follows:
5. Loosen the lower hex nut on the drive cable bracket. See Figure 5-3.
6. Position the bracket upward to provide more slack (or downward to increase cable tension).
7. Retighten the lower hex nut.
8. Repeat steps 1 thru 4 to re-check the adjustment of the drive control.

WARNING: Run the engine completely dry of gasoline before tipping snowthrower.

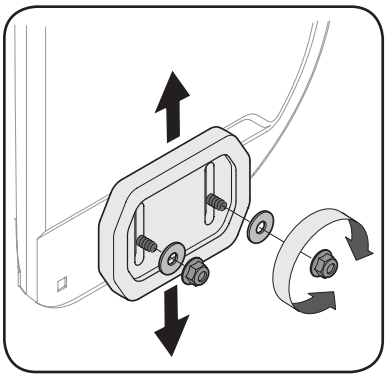


Figure 5-4 - Small Plastic Reversible

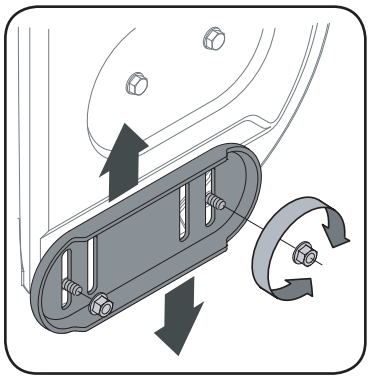


Figure 5-5 - Steel Reversible

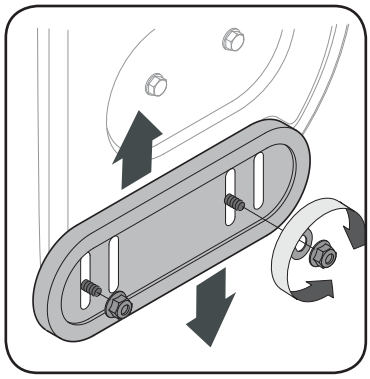


Figure 5-6 - Plastic Reversible

You can also check the adjustment as follows:

1. With the snow thrower tipped forward, remove the frame cover underneath the snow thrower by removing the self-tapping screws. See Figure 6-5.
2. With the drive control released, there must be 1/8" clearance between the friction wheel and the drive pulley in all positions of the shift lever.
3. With the drive control engaged, the friction wheel must contact the drive pulley. See Figure 5-3.
4. If adjustment is necessary, loosen the lower hex nut on the drive cable index bracket and pivot the bracket upward or downward as necessary. Refer to Figure 5-3. Tighten the lower hex nut to secure the bracket when correct adjustment is reached.
5. Reassemble the frame cover and return the unit back to its operating position.

Skid Shoes

The space between the skid shoes and the ground can be adjusted.

- For close snow removal on a smooth surface, raise skid shoes higher on the auger housing.
- Use a middle or lower position when the area to be cleared is uneven, such as a gravel driveway.

To adjust the skid shoes:

1. Loosen the four hex nuts (two on each side) and carriage bolts. Move skid shoes to desired position.
2. Make certain the entire bottom surface of skid shoe is against the ground to avoid uneven wear on the skid shoes.
3. Retighten nuts and bolts securely.

NOTE: Some models are equipped with reversible skid shoes and may be turned over to increase their lifespan. See Figure 5-4, Figure 5-5 and 5-6.

Auger Control

To adjust the auger control, refer to page 11.

5

Making Adjustments

IMPORTANT

It is not recommended that you operate this snow thrower on gravel as loose gravel can be easily picked up and thrown by the auger causing personal injury or damage to the snow thrower.

If for some reason, you have to operate the snow thrower on gravel, keep the skid shoe in the highest position for maximum clearance between the ground and the shave plate.

6

Maintaining Your Snow Thrower

WARNING

Before lubricating, repairing, or inspecting, disengage all controls and stop engine. Wait until all moving parts have come to a complete stop.

Keep all grease and oil off of the rubber friction wheel and aluminum drive plate.

Engine

Refer to the separate engine manual packed with your unit for all engine maintenance.

Lubrication

Engine

Refer to the separate engine manual packed with your unit for all engine lubrication instructions.

Gear Shaft

The gear (hex) shaft should be lubricated at least once a season or after every 25 hours of operation.

WARNING: Run the engine completely dry of gasoline before tipping snowthrower.

1. Carefully pivot the snow thrower up and forward so that it rests on the auger housing.
2. Remove the lower frame cover by removing the screws which secure it.
3. Apply a light coating of an all-weather multi-purpose oil to the hex shaft. See Figure 6-1.

NOTE: Avoid getting oil on rubber friction wheel and aluminum drive plate.

Wheels

At least once a season, remove both wheels. Clean and coat the axles with a multipurpose automotive grease before reinstalling wheels.

Auger Shaft

At least once a season, remove the shear pins on auger shaft. Spray lubricant inside shaft, around the spacers. Also lubricate the flange bearings found at either end of the shaft. See Figure 6-2.

Augers

- The augers are secured to the spiral shaft with shear pins and cotter pins. If the auger should strike a foreign object or ice jam, the snow thrower is designed so that the pins may shear. Refer to Figure 6-2.
- If the augers will not turn, check to see if the pins have sheared. One set of replacement shear pins has been provided with the snow thrower. When replacing pins, spray an oil lubricant into shaft before inserting new pins.

Shave Plate and Skid Shoes

The shave plate and skid shoes on the bottom of the snow thrower are subject to wear. They should be checked periodically and replaced when necessary. To remove skid shoes:

1. Remove the four carriage bolts and hex flange nuts which secure them to the snow thrower.
2. Reassemble new skid shoes with the four carriage bolts (two on each side) and hex flange nuts. Refer to Figure 6-3.

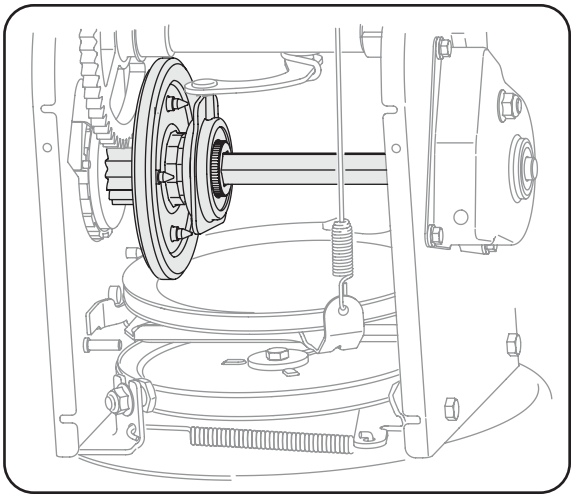


Figure 6-1

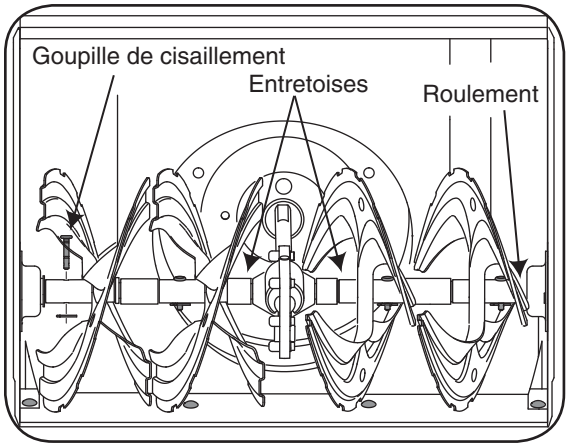


Figure 6-2

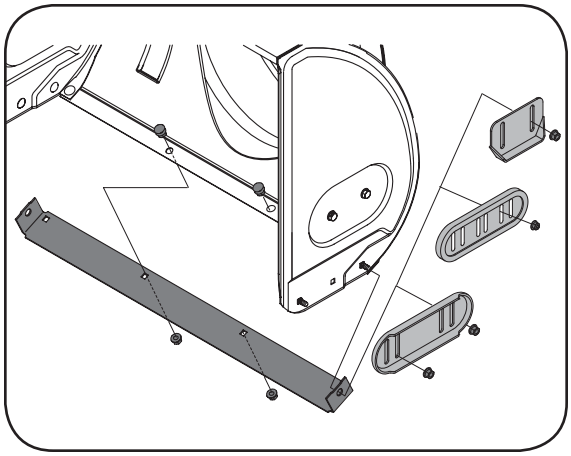


Figure 6-3

To remove shave plate:

1. Remove the carriage bolts and hex nuts which attach it and the skid shoes to the snow thrower housing.
2. Reassemble new shave plate, making sure heads of carriage bolts are to the inside of housing. Tighten securely.

Auger Belt Replacement

WARNING: Run the engine completely dry of gasoline before tipping snowthrower.

To remove and replace your snow thrower's auger belt, proceed as follows:

1. Remove the plastic belt cover on the front of the engine by removing the two self-tapping screws. See Figure 6-4.

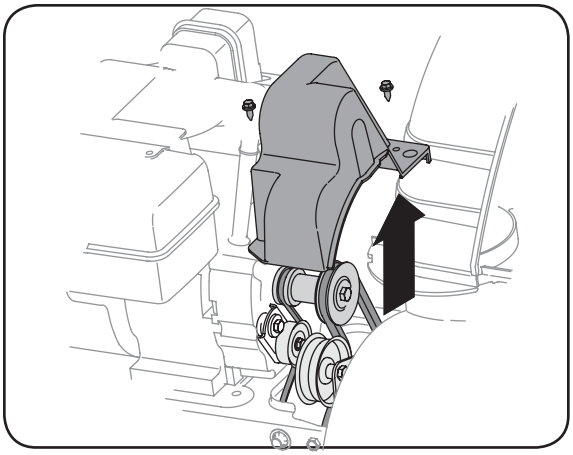


Figure 6-4

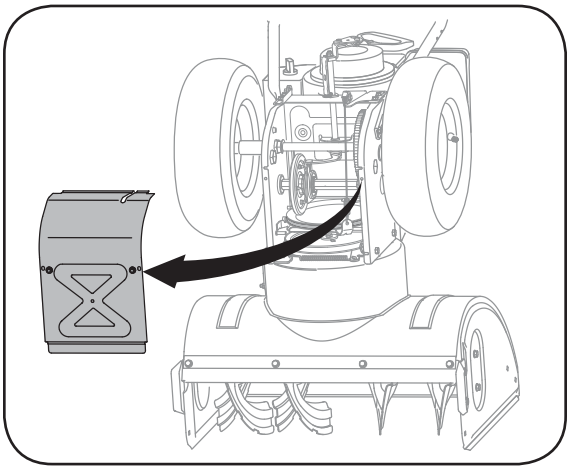


Figure 6-5

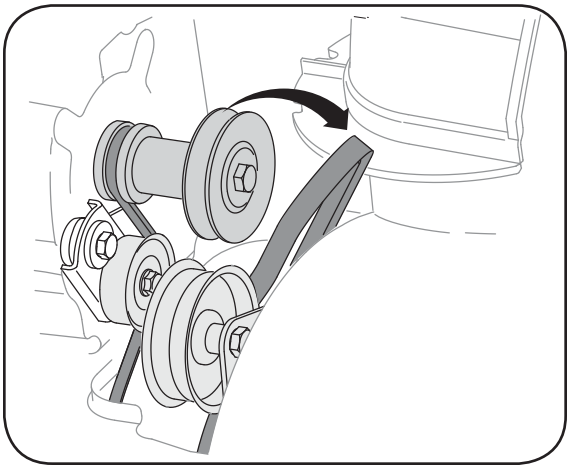


Figure 6-6

2. Carefully pivot the snow thrower up and forward so that it rests on the auger housing. Remove the frame cover from the underside of the snow thrower by removing four self-tapping screws which secure it. See Figure 6-5.
3. Roll the auger belt off the engine pulley. See Figure 6-6.
4. a. Loosen and remove the shoulder screw which acts as a belt keeper. See Figure 6-7.
   b. Unhook the support bracket spring from the frame.
5. Remove the belt from around the auger pulley, and slip the belt between the support bracket and the auger pulley. Reassemble auger belt by following instructions in reverse order. See Figure 6-8.

NOTE: Repeat the auger control test on page 11 before operating the snowthrower.

NOTE: Do NOT forget to reinstall the shoulder screw and reconnect the spring to the frame after installing a replacement auger belt.

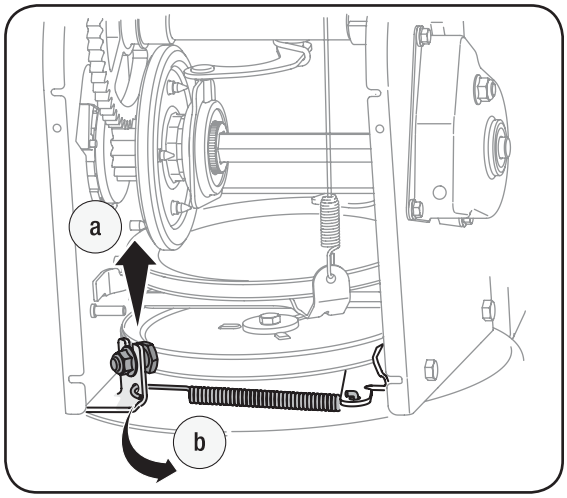


Figure 6-7

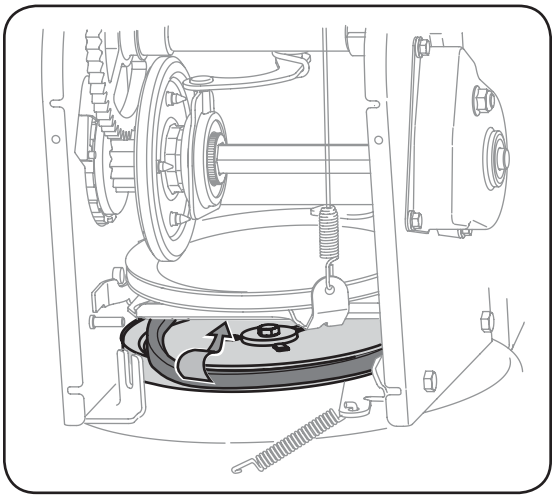


Figure 6-8

6

Maintaining Your Snow Thrower

NOTE: Although multi-viscosity oils (5W30, 10W30 etc.) improve starting in cold weather, these multi-viscosity oils also result in higher oil consumption when used above 32ºF (0ºC). Check your snow thrower's engine oil level more frequently to avoid possible engine damage from running low on oil.

IMPORTANT

NEVER replace the auger shear pins with standard pins. Any damage to the auger gearbox or other components, as a result of doing so, will NOT be covered by your snow thrower's warranty.

6

Maintaining Your Snow Thrower

NEVER replace the auger shear pins with standard hex pins. Any damage to the auger gearbox or other components as a result of failing to do so will NOT be covered by your snow thrower's warranty.

Drive Belt Replacement

WARNING: Run the engine completely dry of gasoline before tipping snowthrower.

To remove and replace your snow thrower's auger belt, proceed as follows:

1. Remove the plastic belt cover on the front of the engine by removing the two self-tapping screws. See Figure 6-4.
2. Carefully pivot the snow thrower up and forward so that it rests on the auger housing. See Figure 6-5.
3. Remove the frame cover from the underside of the snow thrower by removing four self-tapping screws which secure it.
4. a. Roll the auger belt off the engine pulley.
   b. Use a wrench to pivot the idler pulley toward the right. See Figure 6-9.
   c. Lift the drive belt off engine pulley.
5. Back out the stop screw until the support bracket rests on the auger pulley. See Figure 6-10.
6. Slip the drive belt off the pulley and between friction wheel and drive plate. See Figure 6-10.
7. Remove and replace belt in the reverse order.

NOTE: Repeat the drive control adjustment in the "Adjustment" section before operating the snowthrower.

Friction Wheel Inspection

If the snow thrower fails to drive with the drive control engaged, and performing the drive control cable adjustment fails to correct the problem, the friction wheel may need to be replaced.

NOTE: Special tools are required and several components must be removed and in order to replace the snow thrower's friction wheel rubber. See an authorized Service Dealer to have the friction wheel rubber replaced or phone Customer Support as instructed on page 2 for information on ordering a Service Manual.

To inspect the friction wheel, proceed as follows:

1. Carefully pivot the snow thrower up and forward so that it rests on the auger housing. See Figure 6-5.
2. Remove the frame cover from the underside of the snow thrower by removing four self-tapping screws which secure it. See Figure 6-5.
3. Examine the friction wheel for signs of wear or cracking. See Figure 6-11.

Off-Season Storage

If unit is to be stored over 30 days, prepare for storage as instructed in the separate engine manual packed with your snow thrower.

- Clean snow thrower thoroughly.
- Lubricate as instructed in the Maintenance section of this manual.

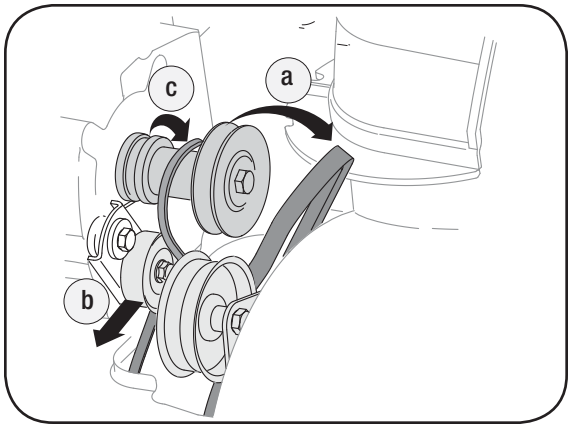


Figure 6-9

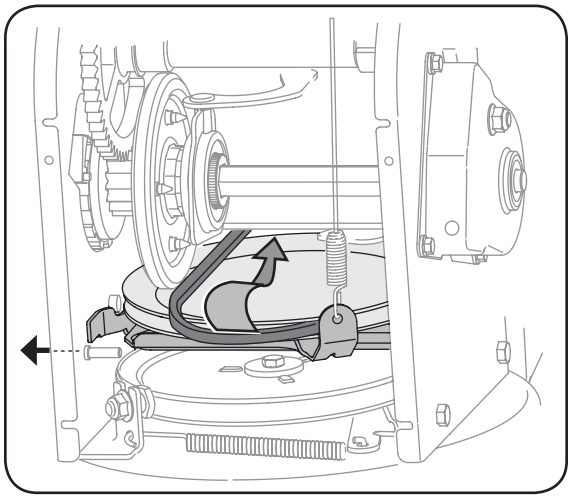


Figure 6-10

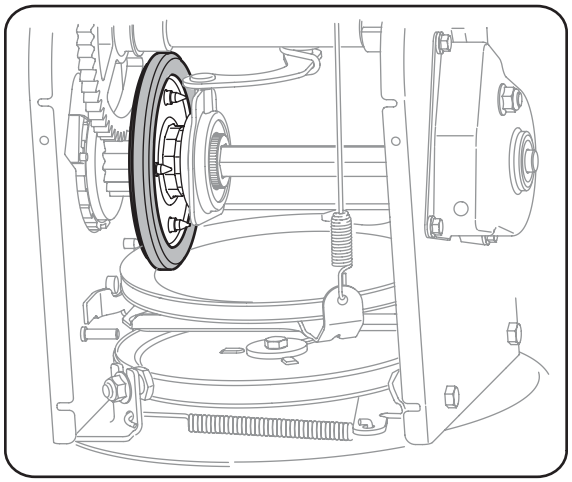


Figure 6-11

- Refer to engine manual for correct engine storage instructions.
- Store the snow thrower in a clean, dry area.
- When storing any type of power equipment in a poorly ventilated or metal storage shed, care should be taken to rustproof the equipment, especially springs, cables and all moving parts.

Problem	Cause	Remedy
Engine fails to start	1. Choke not in ON position. 2. Spark plug wire disconnected. 3. Fuel tank empty or stale fuel. 4. Engine not primed. 5. Faulty spark plug. 6. Blocked fuel line. 7. Safety key not in ignition on engine. 8. Fuel shut-ff valve closed. (If Equipped)	1. Move choke to ON position. 2. Connect wire to spark plug. 3. Fill tank with clean, fresh gasoline. 4. Prime engine as instructed in "Operating Your Snow Thrower". 5. Clean, adjust gap, or replace. 6. Clean fuel line. 7. Insert key fully into the switch. 8. Open fuel shut-off valve.
Engine runs erratic	1. Unit running on CHOKE. 2. Blocked fuel line or stale fuel. 3. Water or dirt in fuel system. 4. Carburetor out of adjustment.	1. Move choke lever to OFF position. 2. Clean fuel line; fill tank with clean, fresh gasoline. 3. Drain fuel tank. Refill with fresh fuel. 4. Contact Service Center.
Engine overheats	1. Carburetor not adjusted properly.	1. Contact Service Center.
Excessive Vibration	1. Loose parts or damaged auger.	1. Stop engine immediately and disconnect spark plug wire. Tighten all bolts and nuts. If vibration continues, have unit serviced by a Service Center.
Loss of power	1. Spark plug wire loose. 2. Gas cap vent plugged. 3. Exhaust port plugged.	1. Connect and tighten spark plug wire. 2. Remove ice and snow from gas cap. Be certain vent is clear. 3. Contact Service Center.
Unit fails to propel itself	1. Drive control cable in need of adjustment. 2. Drive belt loose or damaged. 3. Friction wheel worn.	1. Adjust drive control cable. Refer to "Adjustments". 2. Replace drive belt. 3. Replace friciton wheel.
Unit fails to discharge snow	1. Chute assembly clogged. 2. Foreign object lodged in auger. 3. Auger control cable in need of adjustment. 4. Auger belt loose or damaged. 5. Shear pin(s) sheared.	1. Stop engine immediately and disconnect spark plug wire. Clean chute assembly and inside of auger housing with clean-out tool or a stick. 2. Stop engine immediately and disconnect spark plug wire. Remove object from auger with clean-out tool or a stick. 3. Refer to "Auger Control Test" . 4. Refer to Maintenance section. 5. Replace with new shear pin(s).

7

Trouble-Shooting

NOTE: This section addresses minor service issues. For further details, contact customer assistance.

8

Warranty

Failure to comply with suggested maintenance and lubrication specifications will void warranty.

FOUR YEAR SUPREME WARRANTY:

For four years from date of retail purchase within Canada, MTD PRODUCTS LIMITED will, at its option, repair or replace, for the original purchaser, free of charge, any part or parts found to be defective in material or workmanship. This warranty covers units which have been operated and maintained in accordance with the owner's instructions furnished with the unit, and which have not been subject to misuse, abuse, commercial use, neglect, accident improper maintenance or alteration. Normal wear parts or components thereof are subject to special terms as noted below in the Ninety Day Consumer Warranty clause.

The engine, starter motor or component parts thereof carry separate warranties from their manufacturers. Please refer to the applicable manufacturer's warranty policy for these items.

Ninety Day Consumer Warranty on Normal Wear Parts: All normal wear part failures will be covered on this product for a period of 90 days. After 90 days but within the four year warranty period, normal wear part failures will be covered if caused by defects in material or workmanship of other component parts. Normal wear parts are defined as batteries, belts, blades, blade adaptors, grass bags, rider deck wheels, seats, tires and clutch parts (friction wheels).

Full Ninety Day Warranty on Battery (if equipped): For ninety (90) days from the date of retail purchase, if any battery included with this unit proves defective in material or workmanship and our testing determines the battery will not hold a charge, MTD PRODUCTS LIMITED will replace the battery at no charge to the original purchaser.

Additional Limited Thirty Day Warranty on Battery (if equipped): After ninety (90) days but within one hundred twenty (120) days from the date of purchase, MTD PRODUCTS LIMITED will replace the defective battery, for the original purchaser, for a cost of one-half (½) of the current retail price of the battery in effect at the date of return.

Personal use: THE FOREGOING PARAGRAPHS CONSTITUTE THE MANUFACTURER'S ENTIRE WARRANTY WITH RESPECT TO ANY PRODUCT PURCHASED AND USED FOR PERSONAL FAMILY, HOUSEHOLD/RESIDENTIAL PURPOSES, AS DISTINGUISHED FROM COMMERCIAL USAGE.

Commercial use: ALL APPLICATIONS OTHER THAN PERSONAL USE AS OUTLINED ABOVE, ARE CONSIDERED COMMERCIAL USAGE.

New products purchased for commercial usage are warranted in the same manner and to the same extend EXCEPT the term of warranty will be 90 DAYS from date of purchase.

How to Obtain Service: Warranty service is available, with proof of purchase, through your local MTD Authorized Service Dealer. If you do not know the dealer in your area, please write to the Service Department of MTD PRODUCTS LIMITED, P.O. BOX 1386, KITCHENER, ONTARIO N2G 4J1. The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD PRODUCTS LIMITED.

Other Warranties: All other warranties, express or implied, including any implied warranty of merchantability is limited in its duration to that set forth in this express limited warranty. The provisions as set forth in this warranty provide the sole and exclusive remedy of MTD PRODUCTS LIMITED obligations arising from the sale of its products. MTD PRODUCTS LIMITED will not be liable for incidental or consequential loss or damage.

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